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Occupational Therapy Feeding and Eating Manual for Parents of Children with Oral Motor Deficits

Jessica Kovacevich
University of North Dakota

Genevieve Ziegler
University of North Dakota

OCCUPATIONAL THERAPY FEEDING AND EATING MANUAL FOR PARENTS OF CHILDREN WITH ORAL MOTOR DEFICITS

by

Jessica Kovacevich, MOTS
and
Genevieve Ziegler, MOTS

Advisor: Gail Bass, Ph.D., OTR/L

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ABSTRACT

Having a child with feeding and eating difficulties can be a very stressful event for parents, and the process of occupational therapy assessment and treatment may also be stressful and confusing for the parents. Most parents are not familiar with feeding and eating difficulties in children, and many parents do not know where to find the information that they need to learn about their child's diagnosis. After an initial review of literature, it was found that parents of children with special needs have few resources for eating and feeding strategies and approaches for oral motor deficits. It was also found that information about assessment and intervention for working with children who have oral motor deficits is readily available for occupational therapists, but most resources are not written in terms that can be easily understood by parents and caregivers.

After an extensive literature review and with input from occupational therapists working in an out-patient pediatric therapy clinic, we decided that parents may benefit from a manual designed to assist them to prepare for and understand the initial occupational therapy evaluation process and subsequent intervention program. The methodology for the development of the manual was an in-depth review of current resources, literature, and research in the area of eating and feeding strategies for children.

This manual was designed for use by an occupational therapists and it can be given to parents prior to the first occupational therapy visit. The manual includes information on: feeding disorders, instrumental assessments, descriptions of the professionals that provide treatment for feeding disorders and their role, and a detailed

description of the occupational therapist role. It also includes information for parents on how to prepare for occupational therapy assessment and intervention, and a description of their role in assessment and intervention. The manual includes definitions of terms, additional resources, forms for parents to fill out prior to the initial occupational therapy evaluation, and treatment/intervention notes pages to help parents to keep treatment information organized.

CHAPTER I

INTRODUCTION

Project Background

The incidence of feeding and eating disorders in infants, toddlers, and children and the interventions to treat them have been increasing steadily in recent years. This may be due to an increased understanding of feeding and eating disorders, advances in medical technology, and increased survival rates of high risk infants. Occupational therapists need to keep up with the ever-changing trends in treatment of these disorders.

A component of treating feeding and eating disorders in children is education and interaction with the parents or caregivers of these children. The initial occupational therapy evaluation can be a very stressful time for parents because of a lack of knowledge and education about their child's disorder, an uncertainty about what the future holds for them, and what their role will be in the treatment of their child. The literature and research reviewed in Chapter II of this document and first-hand experience indicates that a manual that can provide the parents or caregivers with education about feeding disorders and about the professionals that will be working with their child would help the parents or caregivers feel more comfortable beginning the occupational therapy assessment and intervention process. The purpose of the project was to develop an

occupational therapy feeding and eating manual for parents of children with oral motor deficits.

Occupational Adaptation

The theory guiding this scholarly project was the theory of Occupational Adaptation (OA). OA was developed by Schkade and Schultz (2003), and was described as a normative process that leads to competence in occupational functioning. In children with feeding difficulties, the normal process of feeding and eating is interrupted by either a behavioral or physical abnormality. OA describes the occupational process as setting a stage for the parents of the child to be the agent of change in facilitating normal occupational functioning. The occupational therapist sets the stage and gives the parents the tools they need. Together the occupational therapist and parents evaluate the process of change and decide if it is happening effectively or if other changes need to be made in the intervention strategies. The overall goal is for the parents and children to demonstrate increased functional independence in the co-occupations of feeding and eating.

Summary

The parent manual which is the product of this scholarly project had its foundations in current research and literature; a review of that literature is found in Chapter II of this document. Chapter III is a description of the methodology used to develop the manual and Chapter IV contains the manual in its entirety. Chapter IV contains a summary of the significant findings, limitations of the project, and recommendations.

CHAPTER 2

REVIEW OF LITERATRE

Introduction

Recently medical professionals have been increasingly identifying feeding and eating disorders with infants and children. According to McCurtin (1997), this may be due to advances in medical technology, the increased understanding of these disorders through research, and the importance of the multidisciplinary team approach. Children with medical problems are also living longer because of the advancements in medical technology. Research provides ongoing findings to assist professionals in gaining new insight and knowledge on different aspects of feeding and eating disorders.

The purpose of this scholarly project was to develop a manual for parents of children with oral motor deficits that prepares and guides them through the occupational therapy evaluation and treatment process. In order to support the validity of the project, the development of the manual had its foundation in current research and literature. The following chapter is a review of that research and literature and it is divided into the following sections: normal eating and feeding development, types of feeding disorders, and care for a child with feeding and eating difficulties.

Development

In order to treat children with feeding and eating disorders, it is crucial to understand the normal processes and the development of neurological, anatomical, and physiological structures. Feeding difficulties may potentially have many systems involved, thus contributing to the complexity of treating individuals with feeding and eating disorders.

Neurological Developmental

According to Chapman Bahr (2001), "reflexes and responses are an important aspect of the infant movement until the infant's neurological system has matured enough to develop motor control" (p. 4). Some of the initial reflexes diminish as the infant's neurological system develops, but can potentially recur with neurological injury such as a traumatic brain injury.

The infant's rooting reflex is present at birth, causing the infant to seek out the nipple. "The suckling, swallowing, and tongue reflexes are used by the infant to obtain and manage the fluid expressed from the nipple" (Chapman Bahr, 2001, p. 4). The infant should automatically be able to coordinate sucking and swallowing with breathing; the infant stops breathing during the swallow. Sucking immediately followed by a swallow is termed a "suckle." According to Ernsberger and Stegen-Hanson (2001), the entire sequence together is referred to as the suck-swallow-breathe rhythm (p. 20). The grasp reflex is used by the infant to hold onto the mother with their hands while feeding. The gag reflex is present at birth, and present throughout life; it is extremely sensitive during the first few months of birth, but becomes less sensitive when the infant develops

chewing skills. The cough reflex, also present at birth, is present to close the vocal cords of the infant in order to prevent materials from entering the airway (Winslow, 1994). The bite and transverse reflexes assist the infant in establishing the movements needed for the later developmental mechanisms of chewing and tongue lateralization (Chapman Bahr, 2001).

Anatomical/ Oral Motor Development

According to Ernsperger and Stegen-Hanson (2004), "Oral motor skills refer to the movements of the muscles in the mouth, lips, tongue, cheeks, and jaw. Oral motor skills include the functions of sucking, biting, crunching, chewing, and licking" (p. 15). Children require sufficient development of oral motor skills in order to effectively succeed in the occupation of feeding. There are multiple oral motor characteristics that children may exhibit during different developmental stages. Infant and toddler oral motor development is described and categorized by age in the following section. This information is from Ernsperger & Stegen-Hanson (2004, pp. 17-30) and Chapman Bahr (2001).

0-3 months

At 0-3 months, an infant has a small, slightly retracted jaw. The oral space is small, because of the limited amount of food that enters it. An infant has sucking pads in the cheeks, and these larger cheeks and tongue take up the majority of the oral cavity. The larynx sits high in the neck to eliminate the need for complex laryngeal closure. The eustachian tube lies in a horizontal position, and will move into a more vertical position

as the infant moves toward adulthood. The infant moves the jaw, tongue, and lips as one unit.

4-6 months

At this stage of oral motor development, the infant is constantly putting objects in their mouth for oral exploration. The infant develops an up and down chewing pattern of the jaw, and the tongue is able to flatten out. Because the infant's gag reflex diminishes, the child is able to take into the mouth and swallow soft solids.

7-9 months

At 7-9 months, the infant has lateral closure of the lips. The jaw works independently from the tongue and lips, and the tongue is able to differentiate between collecting the food entering the mouth and swallowing the food. Tongue movement is becoming more complex, and the infant has the ability to move food from the center to the edge of the tongue and back. Teething usually starts at this stage, and the sensation of teeth piercing the gums causes the infant to want to put objects in their mouth.

10-12 months

By the time the infant reaches this stage, the bite is usually well-developed, and the infant is able to consume food with lumps that require chewing before swallowing. Infants explore the use of utensils and cups at mealtimes and use hand-eye coordination to bring these objects to the lips. These movements are not necessarily smooth and fluid often leading to messy mealtimes where the infant frequently spills the liquids and food all over.

13-15 months

At this stage the child is able to chew by using coordinated jaw movements. The muscles around the lips and cheeks are more developed to assist with controlling the movement of food. The infant has the ability to elevate the tongue in order to explore the roof of the mouth. The overall mealtime may be less messy because the infant has developed more polished drinking and chewing skills.

16-18 months

At 16-18 months the child perfects the oral motor skills listed in the above stages. The child is better able to regulate the skill during feeding and drinking contributing to less spills of liquids and foods.

25-36 months

By 2 years, the child's oral motor skills continue to be refined and adapted to the growth changes of the child. In this stage, the child uses the tongue to move food that is stuck in different places of the oral cavity such as in the space between the lips and teeth. Three different chewing patterns are used during the chewing process; these patterns are differentiated by the directionality of the jaw. A variety of food should continually be explored in order for the children to adequately practice the recently developed oral motor skills (Ernsberger & Stegen-Hanson, 2004; Chapman Bahr, 2001).

Oral motor skills developed in infancy are essential for success in the occupations of feeding and eating. It is necessary to understand normal neurological, anatomical, and physiological development in order to distinguish between the different types of feeding disorders in infants and toddlers.

Phases of Swallowing

According to Miller and Willging (2003), pediatric feeding difficulties may occur in one or more of the phases of swallowing. There are three phases of swallowing referred to as the oral, pharyngeal, and esophageal phases. The oral phase is when the child ingests or masticates the food in the mouth to form a bolus. The bolus is pushed to the posterior aspect of the mouth before swallowing. The pharyngeal phase involves the trigger of the swallow and transfer of food or liquids through the pharynx. As food passes through the pharynx to the larynx the airway should close in order to prevent aspiration. The esophageal phase allows for food or liquids to pass through the esophagus into the stomach.

Types of Feeding Disorders in Infants and Toddlers

Rudolph and Link (2002) reported that feeding problems occurred in 25% to 35% of normal children and with 40% to 70% of infants who were born prematurely or who have some other type of medical condition. Feeding and eating disorders can be mild and children may grow out of them, or they can be severe enough to affect the child for his or her entire life.

A review of research on pediatric feeding disorders indicated that there are multiple ways to categorize or classify feeding disorders. According to Woolston (1991), the most common classification method of feeding disorders is the dichotomy of organic versus non-organic failure to thrive. Organic feeding disorders include factors associated with structural abnormalities, neuromuscular problems, and other physiologic problems.

Non-organic feeding disorders include factors related to the social environment (Burklow, 1998). Feeding disorders may potentially be caused by one independent factor or several factors working together. The organic versus non-organic dichotomy classification fails to consider that multiple factors, both physiologic and environmental, may contribute to a feeding disorder. Rommel (2003) categorizes feeding problems as medical, oral and/or behavioral instead of using the dichotomy organic versus non-organic. Because there are multiple factors that contribute to feeding and eating disorders in children, classification is a difficult process.

Digestive Disorders

There are several disorders associated with digestive problems in infants and toddlers. The most common types include dysphagia, aspiration, constipation, celiac disease, motility disorders, Hirschsprung disease, short bowel syndrome, food allergy intolerance, and gastroesophageal reflux. Pain, discomfort, appetite suppression, and reduced motivation to feed are all symptoms that can indicate a digestive disorder (Manikam, 2000).

Dysphagia is not a specific diagnosis, but is used to describe a variety of childhood feeding dysfunctions. Dysphagia is categorized into three phases: oral, pharyngeal, and esophageal. Oral dysphagia deals with defects either in the physical structure of the mouth or defects in the central nervous system; an example is low tone in the cheeks which can cause pocketing. Pharyngeal dysphagia is caused by enlarged tonsils and adenoids or retropharyngeal abscesses. Esophageal dysphagia results from structure abnormalities or impairments in the movement of esophageal muscles.

Conditioned dysphagia is a term used to describe children developing hypersensitivity to touch and defensive posturing when food is brought to their mouth, due to medical procedures performed around the face and mouth (Miller & Willging, 2003).

Gastroesophageal reflux is a progressive disorder commonly observed in pediatrics. It can cause discomfort, irritation, and pain when not treated properly. Children may develop aversions to food, resulting in gagging, choking, or emesis (Manikam,2000).

According to McCurtin (1997), aspiration is "the inhalation of food material into the lungs." (p. 12) Aspiration is classified in 3 ways: which stage of swallowing is child at when aspiration occurs, type of occurrence, and severity of occurrence. Aspiration can occur before, during, or after the swallow. Aspiration occurring before the child swallows is caused by oral motor deficits, usually poor tongue movement. Aspiration during swallowing is usually caused by defects in functioning of the larynx. Classifying aspiration by types of occurrence looks at aspiration as either being chronic, which is continually occurring aspiration; state related, which is when the child is respiratorially compromised; fatigued, which is when the child wears out during feeding; or silent, which is not evidenced by the child's behavior, but can be detected by radiological testing (McCurtin, 1997, pp. 12-13).

Oral Motor

A child with oral motor deficits lacks the ability to coordinate and initiate movements needed for normal eating and feeding. These problems may be caused by numerous medical conditions such as structural abnormalities, neurological conditions,

and cardiorespiratory problems. An example of a structural abnormality may be a cleft lip, which interferes with proper lip closure. A neurological condition may be cerebral palsy which may cause problems such as poor tongue movements, aspiration, and reflux . An example of a cardiorespiratory problem is the inability to coordinate the suck swallow breath pattern needed to eat properly (Burklow, 1998; Manikam, 2000).

Behavioral

Behavioral issues with feeding stem from psychosocial difficulties, negative feeding behaviors shaped and maintained by internal and/or external reinforcement, or emotional based difficulties (Burklow, 1998). Many times, the issues are a combination of two or more of these difficulties.

Environmental factors play a large part in the development of feeding difficulties. Stress or negative external reinforcement can cause a child to develop food aversions and other feeding difficulties. An example of an environmental stressor is a child having parents with hectic work schedules, which leads disorganized meal times, and which can put extra stress on the child when feeding (Ernsperger & Stegen-Hanson, 2004; Franklin & Rodger, 2003).

Psychosocial difficulties can stem both from the child and the parent. A negative or dysfunctional interaction between the child and the feeder is an example of this. Parents may become distressed and frustrated with not being able to feed their distressed child. The child may also have feelings of distress if they do not have the adequate skills for feeding and eating (Franklin & Rodger, 2003).

Culture can influence a child's development of eating habits and behaviors, both positively and negatively. "Don't play with your food", or "Use your spoon, not your fingers", can create a roadblock for resistive eaters. These cultural norms take away the sensation of the food, and many children with feeding difficulties need multiple sensory opportunities to develop functional eating habits (Ernsperger & Stegen-Hanson, 2004).

Care for Children With Eating and Feeding Difficulties

Children with feeding and eating difficulties may require care provided by a variety of medical professionals who use their unique skills for evaluation and treatment. The individual disciplines will contribute their skills and knowledge to the treatment process based on the child's needs. The treatment process starts with an initial evaluation to determine the need for treatment and continues with interventions to aide the child in progressing towards set goals.

The Treatment Process

The Treatment Team

An interdisciplinary team approach is necessary for evaluation and treatment due to the complexity of eating and feeding difficulties in infants and toddlers. The team may include a pediatrician, psychologist, occupational therapist, speech language pathologist, dietitian, and nurse. Every patient will have a team made up of different professionals, and depending on the needs of the child, this team may change over time as the child's needs change. The interdisciplinary team members possess different functional roles dependent on their profession. Children with eating and feeding difficulties are initially evaluated by their pediatrician. The pediatrician is the medical leader who examines the

child to determine if there is a specific diagnosis that is having an impact on the child's eating and feeding. They may prescribe or administer treatments necessary for the individual child's case. Pediatricians may also refer the child to other medical professionals such as occupational therapists to get input into the evaluation and diagnostic process and for treatment of the feeding and/or eating difficulty (Arvedson, 2006 ; Miller et. al., 2001).

The psychologist identifies and treats psychological and behavioral problems. Examples of these behaviors during eating are gagging, vomiting, and spitting. Psychologists examine the parent-child relationship interactions during mealtimes; behavioral interventions may be used to treat feeding difficulties in children (Linscheid, 2006). Several standardized and normative based-instruments are available for assessing the incidence and general nature of a feeding problem. An interview with the parents also helps the psychologist to identify problem behaviors.

The speech language pathologist looks at the child's oral motor skills required for eating. They evaluate oral motor skills through clinical observation, but often recommends further diagnostic medical testing such as a videofluoroscopic swallow study. The speech language pathologist can also help read the infant or toddler's communicative signals during feeding and eating (Morris & Klein, 1987). The occupational therapist evaluates and treats problems related to posture, tone, oral motor, oral sensory, and self feeding. The occupational therapist's role often overlaps with the speech language pathologist (Arvedson, 2006).

The dietitian assesses past and current diets of the child to determine nutritional needs. The dietitian may design specific meals to meet the nutritional needs of the child. Ongoing monitoring of the child's diet will be necessary to make sure the child is receiving the nutrition needed to support healthy growth and development (Arvedson, 2006).

The nurse is often the main coordinator for the treatment team. The nurse reviews and records information gathered by the parents and/or caregiver prior, during, and after clinic visits. Nurses are seen more in an acute inpatient setting or clinical setting and not in an outpatient setting due to their role in the medical field (Arvedson, 2006 ; Miller et. al., 2001).

Medical professionals are not the only members who make up the treatment team. According to Pressman and Berkowitz (2003), the parents or caregivers should also be included in the treatment team along with the professionals. Parents and/or caregivers can provide valid subjective and objective data about the child that will aid in the evaluation and treatment process (Arvedson, 2006 ; Miller et. al., 2001).

Occupational Therapist Role

All interdisciplinary members are important for the treatment process, but the role of the occupational therapist during the treatment process will be the main focus of this project. According to Miller and Burklow (2001), the occupational therapist frequently explores the use of adaptive equipment to enhance the child's ability to eat and feed. An example of adaptive equipment may be a positioning device that provides upright posture necessary for an accurate swallow. Occupational therapists have a unique role because

they look at how the child's eating and feeding problems affect their every-day occupations. "By taking a broad view towards the activity of eating and recognizing the occupation that it influences, occupational therapists and occupational therapist assistants include physical, cognitive social, emotional, and cultural elements in evaluation and intervention" (American Occupational Therapy Association [AOTA], 2000, p.629). According to Schultz-Krohn (2006), occupational therapists and occupational therapy assistants are uniquely positioned to meet the needs of infants and toddlers who have problems eating and feeding. Feeding and eating are activities referred to as occupations, which are various kinds of life activities that individuals engage in. An occupational therapist's main goal for treatment is to increase engagement in occupations that are disrupted such as infants and toddlers with feeding and eating difficulties. Occupational therapists offer a wide range of skills to evaluate and treat these infants and toddlers. The first of these skills is the skill of activity analysis, which is a crucial part of assessing a child's feeding and eating patterns. Also, the occupational therapist has an "extensive knowledge of anatomy and physiology of the phases of eating for the purpose of assessing structural, neuromotor, and sensory factors that support or interfere with function" (AOTA, 2000, p. 631). The occupational therapist is also skilled to educate other professionals on the treatment team and the caregivers.

Evaluation

It is important for the parents and/or caregivers to organize subjective and objective data in preparation for occupational therapy intervention services. This will optimize the initial conversation and time with the occupational therapist (McNally,

2002). Data a parent and/or caregiver can bring into the initial evaluation scheduled with the occupational therapist includes: 1) medical history, 2) feeding journal, 3) film of a mealtime, and 4) list of educational or research materials that have been read.

The medical history should include dates of any surgeries, previous and current medications, diagnostic testing procedures, and any information on previous therapies the infants or toddlers have received. According to McNally (2002), medical professionals appreciate the parents/caregivers compiling this medical information before the initial evaluation because it is easier to read and understand compared to detailed medical records. A feeding journal includes documented observations of the infants or toddlers feeding and eating performance. The journal is used to organize these observations and will aide the occupational therapist in the treatment process. Observations recorded may include the infant or toddler behaviors, types of foods and or amounts eaten, and interactions with the parent and/or caregiver. Filming a child at home during a mealtime captures a child's typical responses to foods and provides the occupational therapist with an understanding of the child's feeding and eating patterns in the context of the home. Parent and/or caregivers should lastly read information on feeding and eating disorders to gain a better understanding of the child's disorder. Resources can be found on the Internet, in books, or articles. This data combined with the occupational therapist clinical reasoning skills will contribute to the treatment of the feeding and/or eating disorder (McNally, 2002).

Infants and toddlers with feeding and/or eating difficulties may be referred to a licensed occupational therapist for treatment. In preparation for the initial evaluation the

occupational therapist will review the child's medical records to learn why the child is referred to services and review any past medical history that is pertinent to the treatment process. The initial clinical evaluation may include assessing a variety of feeding and eating components. An occupational therapist will assess oral motor function, muscle tone, posture, sensory response, behavior, self-feeding ability, parent-child interactions, social and environmental components, and the child's physical abilities (Dmetteo, 2005).

The first thing the occupational therapist will do is review the medical history and interpret the results to assess which areas reflect needs of the infant or toddler in therapy. The next thing will be to assess the infant or toddler's oral motor behaviors. In her book, *Oral Motor Assessment and Treatment*, Chapman Bahr (2001) recommends several assessment tools to observe these behaviors. The *Developmental Pre-Feeding Checklist* developed by Suzanne Evans Morris and Marsha Dunn Klein is recommended as an excellent assessment for infant feeding. The *Neonatal Oral-Motor Assessment Scale* is recommended to assess oral motor function in new-born infants. Several other assessments are available for use in assessment, and may be used based on the occupational therapist's preference and experience.

In an article, Arvedson (2006) concluded "instrumental assessments of swallowing may be needed following a clinical evaluation when concerns are noted regarding pharyngeal phase physiology and risks for aspiration with oral feeding" (p. 9). Instrumental assessments of swallowing may include a videofluoroscopic study (VFSS), fiberoptic endoscopic (FEES), functional magnetic resonance imaging, and electromyography. The VFSS is a videotaped X-ray that records how food passes into the

mouth through the pharynx to determine if the child is aspirating and/or penetrating their food or liquids. According to Miller and Willging (2003), " the VFSS analysis of the swallow remains the gold standard of objective swallowing assessment following the clinical feeding evaluation for confirmation of airway protection adequacy during the swallow" (p. 443). The VFSS may not be available to use in all clinical settings. Miller and Willging describe fiberoptic endoscopic evaluation as placing a scope down the infant's throat to "directly visualize the hypopharynx during the swallowing process to assess airway protection ability" (p. 444). Functional magnetic resonance imaging is still under investigation as to the safety and effect on the infant.

The initial evaluation may be a brief process or extensive and time consuming, based on the child's strengths and deficits. The evaluation may include all or only some of the processes described above. Interpretation of the results of the occupational therapy initial evaluation will be used to guide the treatment and intervention process.

Intervention

Based on the findings of the initial evaluation, the occupational therapist will develop a plan for treatment. Included in the treatment plan are a series of unique interventions based on the infant or toddlers feeding and/or eating needs. Described below are common oral motor, behavioral, and sensory intervention strategies used by occupational therapists for infants and toddlers with feeding and eating difficulties as described below.

Oral motor

Oral motor feeding and eating difficulties may be caused by abnormalities in the oral anatomical structures, sucking mechanism, and swallowing mechanism. Oral motor interventions for infants may include movement activities, whole-body massage, oral sensory exploration, positioning,and handling techniques.

According to Chapman Bahr (2001), " Typical oral motor treatment sessions for infants should begin with massage and movement activities" (p. 112). Massage benefits the infant by increasing circulation, body awareness, bowel function, sleeping patterns, attention, focus, concentration and comfort level. As the infant develops and matures movement activities in preparation for treatment are readily used. An occupational therapist may set up an obstacle course using tunnels, scooters, and swings that allow the child to crawl and move about. It is crucial for the therapist to provide appropriate movement activities based on the child's response. Some children may be more apt to become over stimulated with movement activities (Chapman Bahr, 2001).

Infants and toddlers with movement and muscle tone deficits often are unable to complete self- initiated oral motor exploration which is required for proper oral motor development. These children require assistance in learning how to mouth their toys and their hands and feet. An occupational therapist can implement oral motor exploration into the treatment session by using hand over hand assistance to get objects to the child's oral motor region. There are a variety of mouthing toys available to use that have different surfaces, textures, and sizes. The therapist may also try different positioning techniques to

determine if position is inhibiting the child's ability to bring objects to the mouth. (Chapman Bahr, 2001)

Proper positioning is necessary to promote oral motor functioning. The occupational therapist may implement different positions that help the child achieve good postural alignment. According to Case-Smith and Humphry (2005, p. 499), appropriate alignment consists of the following: 1) neutral pelvic alignment of the trunk. Pelvis alignment is promoted when the child sits well supported against a flat back, on a flat seat, and on the buttox with 90 degree hip flexion and 90 degrees of knee flexion; 2) good head, neck, and shoulder alignment with the head in slight flexion or neutral; and 3) chin tuck with the back of the neck in a elongated position. Postural alignment through positioning is crucial for normal oral motor movement during feeding and eating.

Handling techniques involve touch in and around the mouth and can be implemented before and during feeding and eating treatment. Before feeding and/or eating an occupational therapist can use the techniques of tapping, quick stretch, or vibration to the cheeks and lips to improve muscle tone through sensory input. During feeding, the occupational therapist can provide jaw support through finger positioning on the chin and cheek of the child. This support will potentially enable the child to gain adequate internal jaw control and tongue stability for eating without any physical assistance (Case-Smith & Humphrey, 2005). During bottle feeding, touch pressure to the cheeks can be used to improve suctioning of the nipple. Oral motor responses can also be influenced by the placement of a spoon during eating; different spoon placements on the tongue can inhibit tongue movements needed for the sucking response. Handling

techniques during feeding and eating can involve physical touch from the therapist or touch from utensils such as a spoon (Case-Smith & Humphrey, 2005).

Behavioral

Behavioral problems related to feeding and eating difficulties can include behaviors such as food refusal, food selection based on texture, not eating, and overselectivity. Behavioral interventions are centered around two major areas: appetite manipulation and contingency management. Appetite manipulation may involve interventions such as inducing hunger, removing foods that the child is prone to eat, and restricting all calories between meals. Contingency management includes positive and negative reinforcement and mild punishment. Positive reinforcement may be verbal praise, or giving the child the opportunity to play with their favorite toy or watch a favorite movie. Positive reinforcement should be given immediately after the child exhibits the desired behavior. An example of negative reinforcement is letting the child "escape" as soon as they finish their food, making them think that they have won. An acceptable form of mild punishment is a short time-out when the child refuses food (Linscheid, 2006).

Sensory

According to Case-Smith and Humphrey (2005), "Young children with feeding problems exhibit hypersensitivity in and around the mouth" (p. 493). Touch in or around the mouth causes aversive responses in these children; they also commonly react to any textured food placed in the mouth. Reactions to touch or texture in or around the mouth may be gagging, spitting, coughing, or crying. Infants with oral hypersensitivities "may

hold the food in their mouths to avoid moving it through the mouth" (Case-Smith & Humphrey, p. 494). Starting as soon as possible, exposing the infant to textured foods will help to facilitate acceptance of textured foods and elimination of the adversive reflexes. Doing activities between meal times will help the therapist ~~to~~ establish a relationship of trust with the child, because the child will not associate the therapist with an unhappy event. Encouraging the infant or toddler to explore their mouth with their hands will help them to become comfortable with touch in or around the mouth. The therapist can also use washcloths or rubber or regular toothbrushes to rub the gums of the infant or toddler. Dipping the toothbrushes or washcloths in food before rubbing them in the mouth will help the infant or toddler become accustomed to the taste and texture of different food. Firm, all-over rubbing on the infant or toddler can also help desensitize the infant, and get them used to touch. Firm pressure sustained to the upper palate "can desensitize the entire mouth, enabling the child to accept touch in other parts of his or her mouth" (Case-Smith & Humphrey, p. 494). In older children, vibration may be used around the jaw and mouth.

During mealtimes, modifying textures of the child's food is the first intervention to be used. Thicker foods move more slowly through the mouth and provide more sensory input to the child, therefore, foods can be thickened or thinned depending on the child's needs. The therapist also needs to assess the types of utensils being used to feed the infant or toddler. When feeding the infant or toddler, food placement on the tongue can often dictate the child's response to the food. Food placed on the anterior of the tongue rather than the posterior, and food placed in the center of the tongue rather than on

the sides seems to be tolerated better by the child (Case-Smith & Humphrey, 2005). Lamm, Felice, and Cargan (2005) studied swallowing in children with dysphagia and it was found that initiating a tactile stimulus to the child's posterior tongue caused 100% of children studied to have an induced swallow reflex.

The interventions described above may be used during occupational therapy treatment sessions and may be implemented into the daily routines by parents to enhance the feeding and/or eating process at home. Interventions used for treatment will differ for each individual child; interventions are based on the child's needs. The occupational therapist can provide a wide range of oral motor, behavioral, and sensory interventions to improve the child's performance in the occupations feeding and/or eating.

Parent's Perspective

During the treatment process, medical professionals need to consider the role of both the child and the parent. Parenting children with feeding and eating difficulties may potentially affect the parent's mental and physical health. Children with feeding and eating difficulties may have other interrelated conditions, and these conditions have to be taken into consideration. Parents face the challenge of balancing the multiple tasks in managing the child's medical needs with other parental role. (Franklin & Rodger, 2003).

Mental health issues such as anxiety, depression, and stress have the potential to become prevalent within the parent. Most parents want to ensure that their child is receiving adequate nutrition to enhance development and growth. When the feeding and/or eating process is disrupted for their child, parents may become anxious or depressed; this then contributes to stress in the parent/child interaction during feeding and

eating. Strategies that will decrease and/or alleviate the psychological issues exhibited by parents include implementing training and education on a variety of topics that will aide in a positive parent/child interaction, and medical professionals should take time during treatment to acknowledge psychological aspects affecting the parents (Franklin & Rodger, 2003).

Parents may have physical stress because of the increased demands, responsibilities, time, and energy it takes to parent children with feeding and/or eating difficulties. Physically the parent may demonstrate overall fatigue, headaches, weight gain or loss, and sleep disturbances. Parents need to take care of their physical health by using time management skills and by getting help from others. Parents should find ways to take time out for themselves and to balance parental roles. (Franklin & Rodger, 2003)

It is crucial for medical professionalS to be responsive to the needs of the parents along with their child's needs inorder to make sure treatment is not contributing to further stressful situations and therefore inhibiting the child from making progress. When a parent is affected physically or mentally, there are ways to assist them through the treatment process. In order to find out this kind of information, it may be beneficial for the medical professionals to ask parents to complete a reflective journal that can be used to share their thoughts and help medical professionals make sure all the parents’needs are being met during the treatment process. Medical professionals may gain insight on the problems the parents are having through the reflective journals. Helping parent's access appropriate professional and non-professional support networks, information, resources and implementing training and education during the treatment process will aide in

treating the infant or toddler and assist parent's in developing knowledge of feeding and eating difficulties (Hanna & Rodger, 2002).

Conclusion

Raising a child with feeding and eating difficulties can be a confusing and stressful situation for parents or caregivers. The process of evaluation and treatment for the child may seem overwhelming, and it is the responsibility of the occupational therapist to help parents, as well as the child, feel as comfortable as possible. The occupational therapist can educate and guide the parent(s) through feeding and eating intervention as well as help them develop stress management and coping skills.

Parents are important during the treatment process since they know their child best. The parent can provide information about their child’s behaviors that a occupational therapist may not see in the clinical setting. The information from the parent will aide in developing a treatment plan for the child. Parent therapist collaboration is an essential part of the treatment process to assure all needs are being met.

CHAPTER III

METHODOLOGY

The topic of pediatric feeding interventions and the parent's role became of interest to the authors when one of the authors was on a Level-II pediatric fieldwork at Capable Kids in Chaska, Minnesota. The author noticed that parents and caregivers who brought their children in for therapy were often under-educated about their child's feeding disorders, and they also seemed to have many questions that they didn't have answered. The parents were given a very large binder with information from the clinic as well as information from textbooks and medical journals to read. Because the binder was so overwhelming, the follow-through of parents reading it was poor. The author determined that the parents needed a better way to communicate their questions with the occupational therapist and also a better way to learn about their child's feeding difficulties.

In order to support the author's observations and assumptions, an -extensive review of literature, including textbooks, journals, and research articles was conducted. Several pediatric textbooks, such as Chapman Bahr's *Oral Motor Assessment and Treatment: Ages and Stages* (2001) and Ernsperger and Stegen-Hanson's *Just Take a Bite: Easy Effective Answers to Food Aversions and Eating Challenges* were reviewed. Also, the Harley E. French Library website was used to access the PubMed literature

database, OTSearch literature database, Cinahl literature database, and OTSeeker literature database. These databases provided credible articles on children with feeding disorders, and perspectives from clinicians and parents on this subject. The American Occupational Therapy Association website was used to access articles from the *American Journal of Occupational Therapy*.

Through the literature review, it was found that an interdisciplinary team approach is necessary for evaluation and treatment due to the complexity of eating and feeding difficulties in infants and toddlers. Patients will have a team made up of different professionals, and depending on the needs of the child, this team may change over time as the child's needs change (Arvedson, 2006). This indicates that the parents will need information on more than just the occupational therapist, and the feeding manual will offer a place to give parents a brief description of each team member and what their part in the treatment process may be.

Occupational therapists look at the entire occupation of feeding. “By taking a broad view towards the activity of eating and recognizing the occupation that it influences, occupational therapists and occupational therapist assistants include physical, cognitive social, emotional, and cultural elements in evaluation and intervention” (AOTA, 2000, p. 629). Feeding and eating are activities referred to as occupations, which are various kinds of life activities that individuals engage in. Occupational therapists must help a child with difficulties in these occupations to regain normalcy or adapt to feeding difficulties that aren’t going to change.

Having necessary information already gathered to bring to the initial occupational therapy evaluation will allow the parents and child to maximize their time with the OT (McNally, 2002). This knowledge set the stage for including a feeding journal in the manual that the parents can fill out and bring to the initial evaluation. This eliminates the need for the OT to explain this to the parent during the first visit and then have the parents bring the journal to the next visit; the OT can then use the information from the feeding journal the first time they see the child.

Because the initial evaluation can be stressful, giving the parent or caregiver an idea of what to expect can help to ease stress. The manual includes a section of basic explanations of what the parent can expect during the initial evaluation. It also includes a description of basic diagnostic testing that could possibly be used, and basic interventions that may be used. Finding information on a feeding disorder can be difficult if the right resources are not known to the parent; a list of educational resources for the parents is included at the end of the manual for the parents to consult if they want to further their knowledge.

CHAPTER IV

PRODUCT

The product developed for this scholarly project is a manual for parents of children with oral motor deficits. The purpose of the manual is to prepare and guide parents through the occupational therapy evaluation and treatment process. This manual was designed for use by occupational therapists and can be presented to parents prior to the first occupational therapy visit; it may also be used as a parent resource during treatment.

This manual provides facts on feeding disorders, descriptions of the professionals that provide treatment for feeding disorders and their role, and a detailed description of the occupational therapist role. This manual also includes the following: parent activities to prepare for occupational therapy evaluation and services, an overview of occupational therapy treatment/interventions for children with feeding and eating disorders, a description of instrumental assessments commonly used, and a description of the parents role during occupational therapy services. The final section of the manual includes a word bank, additional resources, and treatment/intervention notes pages for parents to use during the occupational treatment process

The theory used to guide this product was Occupational Adaptation (OA). Schkade and Schultz (2003) described their theory as a normative process that leads to

competence in occupational functioning. In children with feeding or eating difficulties, this normative process may be disrupted resulting in a maladaptive response. OA sets a foundation for the parents to be their own agent of change in feeding and eating co-occupations. The occupational therapist is responsible for setting the stage by designing the environment for occupational adaptation to occur. The occupational therapist will guide the parents as they design their own occupational treatment challenges. The occupational therapist and parent will collaborate to evaluate the response to occupational therapy treatment. The treatment process may be altered by the parents evaluation of whether or not they are satisfied with their performance in the co-occupations of feeding and eating. The overall goal is for the parents and children to demonstrate increased functional independence in the co-occupations of feeding and eating. The following section of this chapter contains the product in its entirety.

Occupational Therapy Feeding and Eating Manual for Parents of Children with Oral Motor Deficits

By Jessica Kovacevich and Genevieve Ziegler
Advisor: Gail Bass, Ph. D, OTR/L

Table of Contents

Introduction

The following manual is a manual designed to help you through the occupational therapy evaluation/treatment process. There is information on basic feeding disorders, the treatment team you will be working with, how to prepare for the occupational therapy sessions, assessments that may be used, and basic interventions that occupational therapists use. Included in this manual are forms to fill out to bring with you to the initial therapy evaluation. These forms will help the occupational therapist develop a plan for evaluation and treatment of your child. By completing the forms at home, it will be easier for you, and you will have more time to think about your answers, making them more accurate. The journal is helpful because your child is going to act differently in the clinic than at home, and the history forms help the therapist see your child through your eyes rather than just from medical chart information. There are pages at the end of this manual with blank lines for notes; these notes can be taken both at home and during the treatment session and then discussed with the occupational therapist. Additional resources that may be helpful to you and your child are included. If you have any questions when filling out the forms, don't hesitate to call your occupational therapist.

Feeding Disorder Facts

Definitions

- The term "feeding disorder" refers to a condition in which an infant or child is unable to or refuses to eat, or has difficulty eating; this can result in frequent illnesses, failure to grow normally, and even death.
- “Feeding disorders” are different than an “eating disorder” such as anorexia which are more common in adolescence and adulthood.

Prevalence

- The incidence of minor feeding problems ranges from 25% to 35% in normal children and 40% to 70% in infants born prematurely or children with chronic medical conditions (Rudolph & Thompson Link, 2002).

Feeding problem effects on children are:

- Dehydration
- Poor nutrition
- Risk of aspiration (food or liquid entering the airway or ‘going down the wrong way’)
- Pneumonia
- Repeated chest infections that can lead to chronic lung disease
- Embarrassment or isolation in social situations involving eating

Feeding Disorder Facts (continued)

Causes
There are a variety of medical conditions that can cause feeding disorders.

Listed below are common medical conditions that may be a cause of feeding difficulties:

- Prematurity/ low birth weight
- Conditions affecting the airway, such as chronic neonatal lung disease
- Heart disease
- Cleft lip or palate
- Nervous system disorders
    - Cerebral palsy
    - Meningitis
    - Encephalopathy
- Developmental delays
- Abnormal oral structures such as a large tongue
- Prenatal malformations of the digestive tract, such as esophageal atresia
- Oral sensitivity that can occur in very ill children who have been on a ventilator for a prolonged period of time
- Irritation of the vocal cords after being on a ventilator for long period of time
- Paralysis of the vocal cords
- Having a tracheostomy (artificial opening in the throat for breathing) irritation or scarring of the esophagus or vocal cords by acid in gastroesophageal reflux disease (GERD)
- Compression of the esophagus by other body parts, such as the heart, thyroid gland, blood vessels, or lymph nodes

(Adapted from Penn State University Children's Hospital; Arvedson, 2006; & Rudolph, 2002)

The Treatment Team

Every child will have a team made up of different professionals, and depending on the needs of the child, this team may change over time as the child's needs change. The team members possess different roles dependent on their profession. Listed below are professionals that commonly work with children who have feeding disorders.

Pediatrician

- The pediatrician is the medical leader who examines the child to determine if there is a specific diagnosis or problem that is having an impact on the child's eating and feeding
- They may prescribe or administer treatments necessary for the individual child's case
- Pediatricians may also refer the child to other medical professionals such as occupational therapists for treatment of the feeding and/or eating difficulty

Psychologist

- Identifies and treats psychological and behavioral problems. Examples of these behaviors during eating are gagging, vomiting, and spitting.
- Psychologists examine the parent-child relationship interactions during mealtimes

Speech language pathologist

- Evaluates the child's oral-motor functions required for eating
- Evaluates the child's communicative signals during feeding and eating

Dietitian

- Looks at past and current diets of the child to determine nutritional needs
- The dietitian may design specific meals to meet the nutritional needs of the child
- Ongoing monitoring of the child's diet will be necessary to make sure the child is receiving the nutrition needed to support healthy growth and development

The Treatment Team (continued)

Nurse

- The nurse is often the main coordinator for the treatment team
- The nurse reviews and records information gathered by the parents and/or caregiver prior, during, and after clinic visits.
- Nurses are seen more in an acute inpatient or clinical setting and not in an outpatient setting

Occupational Therapist

- The occupational therapist treats problems related to abnormal posture, tone, motor function, oral motor structures, and self-feeding.
- The occupational therapist's role often overlaps with the speech language pathologist

Parents/caregivers

- Parent's and/or caregivers are part of the treatment team
- They offer knowledge and share observations of their child's feeding and or eating difficulties to assist the medical professional with the treatment process.

(Adapted from Miller, Burklow, Santor, Kirby, Mason, & Rudolph, 2001; Arvedson, 2006)

Occupational Therapist Role

All team members are important for treatment of an eating and/or feeding disorder, but the role of the occupational therapist during the treatment process will be the main focus for this manual.

Feeding and eating are activities referred to as occupations, which are various kinds of life activities that individuals engage in. An occupational therapist's main goal for treatment is to increase engagement in occupations that are disrupted; this is the case with infants and toddlers who have feeding and eating difficulties. Occupational therapists offer a wide range of skills to evaluate and treat these children.

THE TREATMENT PROCESS

Referral

- A referral comes from a physician or other medical professional recommending further evaluation of your child's feeding and eating conditions.

Evaluation

- The occupational therapist will conduct a formal evaluation to gather information about your child. This may include clinical observation and the use of assessment tools that focus on identifying your child's abilities and limitations in their daily feeding and eating.

Determine if there is a need for occupational therapy

- Based on the findings of the evaluation, the therapist may or may not recommend further occupational therapy services for your child. If further services are recommended, the therapist will help you to set up a treatment schedule.

Occupational Therapist Role (continued)

Interventions to achieve your child's set goals for feeding and eating

- Occupational therapy interventions, based on the findings of the initial evaluation, will be implemented to help reach the goals set for your child by you and your therapist.

Re-evaluation to determine the child's progress

- Throughout the treatment process, the occupational therapist will re-evaluate your child to document their progress in feeding and eating. The re-evaluation findings will be used to revise and/or set new goals for your child.

(Adapted from Willard & Spackman, 2003; AOTA, 2002)

(Microsoft Office Online, 2006)

Preparing for Occupational Therapy

During the initial evaluation, it is important to share as much information as possible about your child; this includes a feeding and eating history. It is easiest to keep a journal or notebook of this information for organizational purposes. Information gathered for the journal/notebook should include:

Medical history

- Diagnostic testing
- Surgeries with dates
- Previous and current medications
- Previous therapy received

Feeding and eating journal

- A journal is kept to write down observations noticed during eating and/or feeding
- Observations may include:
- Types of food your child eats or drinks
- Amounts of food your child eats and drinks
- Mealtime behaviors
- Mealtime interactions with others
- Frequency of vomiting, gagging, or coughing episodes

Film of a mealtime

- This is a 30 minute videotape of your child during a mealtime
- The video captures the child's typical responses at home and offers the occupational therapist with an understanding of mealtimes at home
- The video is used to compare behaviors and problems in different settings; children may act differently in a new setting with unfamiliar individuals.

(Adapted from McNally, & Evans Morris, 2002)

Medical History

The following pages are designed to help you record this information in preparation for the initial evaluation with an occupational therapist.

Please fill in the blanks prior to the initial evaluation with the occupational therapist.

CHILD'S NAME:_____

DATE OF BIRTH:_____

DOCTOR'S NAME:_____

CURRENT HEIGHT AND WEIGHT:_____

DIAGNOSTIC TESTING/RESULTS:
Diagnostic tests are procedures which gives a rapid and convenient indication of whether a patient has a certain disease.

_____

_____

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SURGERIES AND DATES:

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Medical History (continued)

CURRENT MEDICATIONS:

PREVIOUS THERAPY RECEIEVED:

ALLERGIES:

Feeding/Eating History

Is your child still nursing or using a bottle (if no, how old was your child when he/she stopped)?_____

In your opinion, were there any problems with early nursing or bottle feeding?

_____

_____

When were solid foods started (age) & what was given first?_____

_____

_____

In your opinion, how did your child do with his/her first solid food?_____

_____

_____

How often does your child drink or eat?_____

_____

_____

_____

How long does it take your child to complete a meal or snack?_____

_____

_____

What foods or liquid does your child have for:

Snack:_____

_____

_____

Feeding/Eating History

Breakfast:_____

_____

_____

_____

Lunch:_____

_____

_____

_____

Dinner:_____

_____

_____

_____

Who feeds or is with your child during meals or snacks?_____

_____

_____

Where is your child fed or where does your child eat (in a lap, highchair, etc)?

_____

_____

Is your child able to drink from a cup? If so, what kind?_____

_____

_____

Is your child able to feed him/herself?_____

Is your child able to use any feeding utensils? If so, what kind?_____

_____

Feeding/Eating History

Are you using any special equipment with your child? (special bottles, nipples, spoons, plate, etc)_____

_____

_____

Does your child eat/drink in settings other than at home, and if so, where?_____

_____

_____

_____

_____

Does your child's feeding behaviors change if he/she is somewhere other that at home?

_____

_____

_____

_____

Does anything make your child's feeding behavior:

Better:_____

_____

_____

_____

Worse:_____

_____

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_____

Feeding/Eating History

What are your concerns about your child's ability to eat and/or drink?_____

_____

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During feeding and drinking:

What has worked for you and your child?_____

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What has not worked for you and your child?_____

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_____

Feeding and Eating Journal

While completing this journal, please note any abnormal observations you have noticed during eating and feeding. Please include a description and date of the observation.

Types of food and liquid your child prefers to eat or drink

Date	Observation
Ex: 8/25	Applesauce , yogurt, pudding, etc.

Types of food and liquid your child refuses to eat or drink

Date	Observation
Ex: 8/25	Applesauce, yogurt, pudding, etc.

Feeding and Eating Journal (continued)

Amounts of food and liquid your child eats or drinks

Date	Observation
Ex: 8/25	½ glass of milk, ½ cup of Fruit Loops, 2 chicken fingers, etc.

Mealtime behaviors

Date	Observation
Ex: 8/25	When forced to eat yogurt, pushes plate away, is distracted by other people eating, etc.

Feeding and Eating Journal (continued)

Vomiting, gagging, or coughing episodes

Date	Observation
Ex: 8/25	Gags when eating peanut butter, coughs being fed by bottle, etc.

Mealtime interactions with others

Date	Observation
Ex: 8/25	Throws food at others, gets distressed when others join mealtime, etc.

Feeding and Eating Journal (continued)

Other

Date	Observation

(Microsoft Office Online, 2006)

The Initial Evaluation

Prior to the visit the registered occupational therapist will review past medical history that is important to the treatment process.

The initial evaluation may include assessing a variety of feeding and eating components. These components may include:

- Oral motor function
- Muscle tone
- Posture
- Sensory response
- Behavior
- Self-feeding ability
- Parent-child interactions
- Social and environmental components
- The child's physical abilities (including fine and gross motor)

These components may be evaluated with:

- A clinical observation of feeding and/or eating
- A formal or informal assessment
- Diagnostic testing

CLINICAL OBSERVATION

The clinical observation is when the therapist observes your child feeding and/or eating to determine strengths, weaknesses, and deficits.

DIAGNOSTIC TESTS

Diagnostic tests are instruments or tools used by the occupational therapist to determine strengths, weaknesses, and deficits. A description of diagnostic tests that may be used for ongoing evaluation are on the following pages.

Diagnostic tests for swallowing

Diagnostic tests may be recommended beyond the initial evaluation with the occupational therapist. Below are descriptions of diagnostic tests used with the pediatric population.

Videofluoroscopic study (VFSS)

- VFSS is the most common instrumental assessment used
- The VFSS is used to evaluate your child's swallow
- Helps determine the safety of the swallow during eating

The VFSS is an x-ray that lets the professionals observe the structures and muscles your child uses when eating a variety of foods and liquids. The x-rays shows where the food goes once your child swallows. Specifically the professionals are looking for the presence or absence of aspiration (which is when the food enters the airway), how much energy is needed, and how long it takes for your child to eat.

During the study your child will eat different consistencies of food and liquids. The professional observing will be able to see how your child manages these different consistencies.

(Adapted from Miller, Wilging, 2003; DeMatteo, Matovich, & Hjartarson, 2005)

Diagnostic tests for swallowing (continued)

Fiberoptic endoscopic (FEES)

- Examines the inside part of the digestive tract

FEES is a test that uses a small, flexible tube with an endoscope at the end of it. The endoscope is a light and a camera lens used to take pictures of the surrounding area. to examine the inside of part of the digestive tract. An endoscopy is performed while your child is under anesthesia. Pictures may be taken inside the throat, the esophagus, and the stomach to look for abnormalities in the digestive tract. There is also a possibility to take biopsies to look for problems. Biopsies are small tissue samples.

(Adapted from Miller, Wilging, 2003; Mayo Clinic Online,)

(Microsoft Office Online, 2006)

Initial Evaluation Summary

The initial evaluation may be a brief process or it may be extensive and time consuming, based on your child's strengths and deficits. The occupational therapy will interpret the initial evaluation results to guide the treatment process.

Below is space to write notes of the occupational therapist recommendations and information presented during the initial evaluation.

NOTES

Treatment/ Intervention

The occupational therapist will determine what types of treatment/interventions your child needs to improve feeding and eating function. Below are explanations of common treatments/interventions used by occupational therapists. At the end of this manual there is space for notes to write down additional information learned through the treatment process. This may include observations, instructions for home programs given by the occupational therapist, etc.

Oral Massage

Oral massage is used to increase the child's awareness of oral motor structures, or to decrease atypical responses by the child, such as gagging or bite reflexes. Massage may be done with a finger, if the child's mouth is very small, a nuk brush, which is a small rubber brush with soft bristles on the end, or a washcloth may be used. The therapist will begin by massaging an area on the child that is not sensitive to get the child used to the therapist's touch. The therapist will then work their way to the child's mouth. The therapist will provide gentle but firm pressure to the areas around and in the child's mouth.

Oral Exploration

Oral exploration is a normal phase for an infant or toddler to go through in order to explore different objects. Most infants start to mouth hands, feet, and other objects around 5-7 months of age. When infants skip this step, it can produce hypersensitivity or other deficits in oral motor functioning. Therapists may have infants or toddlers who do not mouth objects on their own practice in the clinic. This can be done by lying the infant or toddler on their side where they can easily reach their hands or feet, or may be done by providing toys, food, or other objects for the child to mouth. The therapist may physically assist the child to mouth and explore objects and foods.

Treatment/ Intervention (continued)

Positioning

Different positions that a child is placed in can have an impact on the functioning of their oral motor movements. A therapist may work on positioning with your child to determine the best position for the child to maximize oral motor functioning. The therapist may use different chairs, cushions, and bolsters to position your child. The therapist will both encourage and discourage specific positions to use when feeding your child at home. The therapist will also work with you on different ways to hold your child, in order to maximize comfort and functioning for the child.

Handling Techniques

Based on your child's oral motor strengths and deficits the occupational therapist may use different handling techniques on your child's jaw and throat. Handling techniques are when the therapist supports the jaw or mouth with their fingers or hands to facilitate normal eating patterns. The therapist may support the child's jaw to encourage normal chewing patterns. Support to the jaw also helps if your child does not have the muscle strength or oral motor control to perform eating tasks independently. The therapist may put pressure on the front of the chin to facilitate chin tuck, which in turn facilitates normal swallowing. Handling may also include using utensils in a certain way, placing them in a certain position to facilitate normal eating.

Treatment/ Intervention (continued)

Feeding equipment

To promote oral motor function the occupational therapist may recommend different bottles or feeding utensils to best fit your child's needs. For example they may recommend a different nipple size or shape, or a special spoon, cup, or plate. Different utensils may be recommended in order to maximize independence for the child during feeding and eating.

(Case-Smith, & Humphry, Ch 14, 2005; Chapman Bahr, 2001)

(Microsoft Office Online, 2006)

Parent Role

- Write down as much information as you can about the observations you make at home before and during the treatment process.
- Ask questions. There is no such thing as a stupid question.
- When you are ready, there are additional resources you can use to help you and your child. Don't be afraid to bring resources into occupational therapy treatment sessions for clarification.
- Complying with home programming suggestions given to you by the therapist will ensure your child's feeding and eating treatments will carry over into all environments. Therapy sessions are only a few hours a week, and to maximize benefits from services suggestions should be implemented at home.
- If you are having difficulty implementing interventions at home, be sure to talk to your therapist, and together you may be able to work out a routine that fits your family schedule.
- Voice your concerns; your therapist is there to help you and your child. Every parent has good times and stressful times, and it is important to keep your therapist informed about how you are doing.

Definitions

Aspiration
When the food enters the airway

Assessment
A specific strategy or tool occupational therapists use to gather the evaluation information

Biopsies
Small tissue samples

Dysphagia
Difficulty in swallowing

Informal assessment
A procedure for obtaining information that can be used to make judgments about characteristics of the child by using means other than standardized instruments.

Endoscope
A flexible tube with a light and a camera lens on the end used to take pictures of the surrounding area

Evaluation
The entire process of gathering information

Fine motor skills
Small movements (such as grabbing something with your thumb and forefinger) that use the small muscles of the fingers, toes, wrists, lips, and tongue

Definitions

Formal assessment
Assessment instruments which are standardized and norm-referenced and are administered under controlled conditions

Gross motor
Gross motor skills are the bigger movements (such as running and jumping) that use the large muscles in the arms, legs, torso, and feet

Hypertonia
Excessive muscle tone or tension resulting in slow, rigid, movements and sometimes limited range of movement

Hypotonia
Low muscle tone, floppiness, or lack of tension, in the muscles when a body part is moved

Intervention
The term used for the processes and methods that occupational therapists use to help their clients achieve desired occupational performance in their valued activities

Muscle tone
Mild continuous contraction of the muscle tissue in its resting state; resistance to stretch

Oral-motor
Relating to the muscles of the mouth and/or mouth movements.

(Adapted from Willard & Spackman, 2003; AOTA, 2002; Case-Smith, & Humphry, Ch 14, 2005)

Additional Resources

BOOKS

- **Child of Mine, Feeding with Love and Good Sense** (2000)

  By Ellyn Satter

- **Ellyn Satter's Nutrition and Feeding for Infants and Children, Handout Masters** (1995, with 1997 updates)

  By Ellyn Satter

- **Feeding Your Child: The Braelton Way.**

  By Berry Brazelton and Joshua Sparrow

- **Secrets of Feeding a Healthy Family** (1999)

  By Ellyn Satter

- **Just Take a Bite: Easy, Effective Answers to Food Aversions and Eating Challenges**

  By Lori Ernsperger, PH. D and Tania Stegen-Hanson, OTR/L

(Microsoft Office Online, 2006)

Additional Resources (continued)

WEBSITES

- **American Speech-Language-Hearing Association**
  - www.asha.org
- **Additional medical terminology**
  - www.medterms.com
- **Dysphagia Factsheet**
  - http://www.nidcd.nih.gov/health/voice/dysph.asp
  - Overview of dysphagia - definition, causes, and research
- **Magic Foundation for Children's Growth**
  - http://www.magicfoundation.org/
  - Support for growth hormone therapy. Online brochures on a number of disorders related to growth, including premature puberty, intrauterine growth retardation, etc.
- **Mailing Lists for Feeding Issues of Children**
  - http://www.comeunity.com/disability/speclists.html#feeding
  - Recommended parent discussion lists about feeding difficulties in young children.
- **Marcus Institute, Emory University**
  - http://www.marcus.org
  - Information on feeding disorder programs for young children, and several articles.

Additional Resources (continued)

- **Mayo Clinic**
  - www.mayoclinic.org
- **New Visions**
  - http://www.new-vis.com
  - Articles by Suzanne Evans Morris, Ph.D., an speech pathologist specializing in feeding therapy. List of articles.
- **Small Wonders - A Preemie Place**
  - http://hometown.aol.com/Lmwill262/index.html
  - Laura Williams' website has feeding tips and stories for parents of children born premature.

(Microsoft Office Online, 2006)

Intervention Notes

Date:_____

Observations/Notes:_____

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Questions for therapist:_____

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Intervention Notes

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Intervention Notes

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Questions for therapist:_____

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CHAPTER V

SUMMARY

The purpose of this scholarly project was to develop a manual for parents of children with oral motor deficits that prepares and guides them through the occupational therapy evaluation and treatment process. An exhaustive review of current literature and research was conducted in order to provide a basis of validity for the manual. The literature supports the need for parent-friendly occupational therapy services and educational preparation for parents.

The parent manual includes information on feeding disorder facts, descriptions of the professionals that provide treatment for feeding disorders, and a detailed description of the occupational therapist's role. This manual also includes the following: parent activities to prepare for occupational therapy evaluation and services, an overview of occupational therapy treatment/interventions for children with feeding and eating disorders, a description of instrumental assessments commonly used, and a description of the parents role during occupational therapy services. The final section of the manual includes a word bank, additional resources, and treatment/intervention notes pages for parents to use during the occupational treatment process.

The product is designed for use by the occupational therapist in a clinic or hospital outpatient setting. The occupational therapist should have knowledge and skills in the area of feeding and eating deficits. The product is designed to give to parents prior

to the first occupational therapy session. The manual may be given to the parents by the referring physician or when parents set-up an appointment for the initial occupational therapy evaluation at the facility. Use of the manual will help them prepare for occupational therapy evaluation and treatment. Occupational therapists may also use this manual as a parent resource during treatment to provide parents with educational material on occupational therapy evaluation and treatment for feeding and eating oral motor deficits. Parents can refer to the manual for definitions and explanations of therapy techniques. The additional notes pages provide the parent or therapist with space to record treatment or home programming notes; parents will be able to keep information organized in one manual to alleviate potential stressors.

A limitation of the product is that it has not been used clinically by an occupational therapist to determine the effectiveness. It is recommended that research be done to determine the effectiveness of the manual when used in a clinical setting. In addition, more evidence-based research in the area of evaluation and treatment of feeding and eating disorders for children should be completed. The use of evidence-based practice will optimize the child's experience by using researched evaluation and treatment strategies to increase feeding and eating function.

According to literature reviewed in Chapter II, parent participation and compliance is directly correlated with their understanding of feeding disorders; when the parents do not understand information presented by the occupational therapist it is difficult to comply with recommendations. Attending occupational therapy services for their child is a disruption in their daily lives. Treatment and home programming

recommendations given to parents by the occupational therapist takes up additional time during the day, and parents are required to adjust their schedules to meet the needs of their child with feeding and eating disorders. The literature indicates that parents appreciate guidance from professionals throughout the treatment process, and that printed information should be written in parent-friendly terms. It is hoped that these needs can be addressed through the use of this manual.

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